GENERAL HEALTH
CONDITIONING
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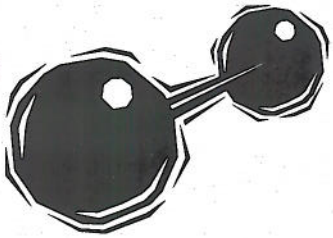
YOUR NUTRITION GAME PLAN

Iron: There's More To It Than Pumping It



Consider yourself healthy and strong? Most athletes are. But to stay that way, you have to do more than just pump iron. You have to make sure you're getting iron in your diet. Chances are, you or someone on your team is not getting enough iron. Estimates are that up to 25% of all teenage girls have iron deficiency. But it's not just a female problem. Growing guys are at risk too.

Why is Iron Important?

Not getting enough iron can turn even the strongest athlete into a weakling. What's more, iron deficiency also hurts your mental performance.

How Does Iron Affect my Performance?

Iron's main job is carrying oxygen in your blood. It's in a molecule called hemoglobin, which gives your blood its bright red color. Hemoglobin is like a magnet for oxygen, taking it from your lungs and releasing it to your muscles, brain and other tissues. When iron is in short supply, you make less hemoglobin, so you don't get as much oxygen. Your muscle and brain functions go downhill in a hurry without enough oxygen. Think of the last time you were out of breath and panting for air. Lacking iron is like having your tissues gasp for air and not getting what they need.

Besides delivering oxygen, iron has other jobs. Iron-containing enzymes unleash energy in your muscles. In other words, that lunch you ate can't be turned into energy for your muscles unless you have enough iron in your body.

What Happens if I Don't Have Enough Iron?

Having less iron in the body than you should is called iron deficiency. Iron deficiency can lead to the more severe stage called anemia. Athletes who are anemic experience decreased physical performance, headaches and insomnia. They often feel tired, cold, weak, dizzy and short of breath, and they look pale. Learning can also suffer. This can show up as lower test grades.

Millions of Americans battle iron deficiency, but it is totally preventable-just make sure you get enough iron.

How Do I Know if I'm Getting Enough Iron?

The only way to know if you have an iron deficiency is with a blood test your doctor or health clinic can run. But you can take preventive measures against iron deficiency by eating a diet with adequate iron. Many athletes eat diets low in iron. In fact, estimates are that 40% of Americans don't get enough iron. Females need about 15 mg/day of iron and males need 10-12 mg/day. The table shows iron content and availability of various foods.

Two Kinds of Iron

How much iron your body absorbs depends on the food. Foods like meat, fish and poultry contain the kind of iron called heme, as in hemoglobin, as in the kind in your body. It is absorbed much better than the non-heme iron (not from hemoglobin) in bread, cereal, fruits, vegetables and pasta.

For example, referring to the table, a 3 ounce portion of ground beef has about the same total iron as a bagel, but your body gets three times more iron from the hamburger.

Some Foods Help Your Body Absorb Iron

Non-heme iron can be absorbed better by eating it with vitamin C-rich foods. Foods high in vitamin C include orange juice, tomatoes, grapefruit and melons.

Some Foods Inhibit Iron Absorption

Certain substances in food decrease how much iron gets absorbed from your intestine into your body. For example, tannins in tea and polyphenols in coffee inhibit absorption of iron when these beverages are consumed with a meal. Even though many vegetables and whole grains are loaded with iron, the phytates, oxalates and fiber in these foods block much of the iron from getting into your body.

If you aren't getting enough iron, adding iron-rich foods to your diet can help prevent problems of iron deficiency. Whether you're eating it or pumping it, iron helps you perform your best.

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IRON CONTENT OF SELECTED FOODS

Heme Sources of Iron

Food (3 oz, cooked, lean only)		Total Iron (mg)	Available Iron (mg)	Calories (kcal)
Beef	Liver, pan fried	5.34	.60	184
	Chuck, arm pot roast, braised	3.22	.48	196
	Sirloin, broiled	2.85	.42	177
	Roundtip, roasted	2.50	.38	162
	Ground, lean, broiled	1.79	.27	231
Pork	Shoulder, blade, Boston, roasted	1.36	.15	218
	Tenderloin, roasted	1.31	.15	141
	Ham, boneless, 5-11% fat	1.19	.14	140
	Loin chop broiled	0 .78	.09	196
Chicken	Liver, simmered	7.2	.81	134
	Leg, roasted	1.11	.17	187
	Breast, roasted	0.88	.13	142
Turkey	Leg, roasted	2.26	.34	168
	Breast, roasted	0.99	.14	126
Fish	Tuna, light meat, canned	2.72	.31	111
	White meat, canned	0.51	.06	116
	Halibut, dry heat	0.91	.10	119
	Oysters, 6 medium, raw	5.63	.63	58
	Shrimp, moist heat	2.63	.30	84

Nonheme Sources of Iron

Food		Total Iron (mg)	Available Iron (mg)	Calories (kcal)
Cereals	Raisin bran (enrich), dry, 2 C.	4.5	.23	120
	Corn flakes (enrich), dry, 1 oz.	1.8	.09	100
	Shredded wheat, dry, 1 oz.	1.20	.06	102
Grains	Bagel, 1	1.8	.09	163
	Whole wheat bread, 1 sl.	1.0	.05	78
	White rice (enrich), cooked, 2 C.	0.9	.05	99
	White bread (enrich), 1 sl.	0.7	.04	76
Fruits	Apricots, dried, 7 halves	1.16	.06	58
	Prunes, dried, 3 medium	0.84	.04	60
	Raisins, 2 Tbsp.	0.38	.02	56
	Banana, 1 medium	0.35	.02	105
Vegetables	Potato, baked w/skin, 1 medium	2.75	.14	220
	Peas, cooked, 2 C.	1.26	.06	63
	Spinach, raw, 2 C.	0.76	.04	6
	Broccoli, raw, 2 C.	0.39	.02	12
Beans/ Legumes	Kidney beans, canned, 2 C.	1.57	.08	108
	Chickpeas, canned, 2 C.	1.62	.08	120
Molasses	Cane, blackstrap, 1 Tbsp.	5.05	.25	47

Adapted from: *Iron in Human Nutrition*, National Live Stock and Meat Board, Chicago, IL, 1990.

Iron Supplement Controversy

Some athletes, in an attempt to make sure they are reaping the benefits of iron, take iron supplements. However, in the absence of iron deficiency anemia, taking iron supplements can be dangerous, because too much iron can be as bad as too little. Excessive iron is dangerous for people who have a silent disease called hemochromatosis, which causes the body to store too much iron. Also, supplemental iron can be dangerous for individuals with sickle cell trait or thalassemia. Iron supplementation should be under the direction of a health care professional.

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